

We claim:

1. A method of signal transmission comprising the steps of:
 - splitting a signal s_1 into signals $s_1(a)$ and $s_1(b)$, wherein the signal s_1 is split unevenly such that the signal $s_1(a)$ has an associated power level greater than a power level associated with the signal $s_1(b)$; and
 - phase sweeping the signal $s_1(b)$ using a phase sweep frequency signal to produce a phase swept signal $s_1(b)$.
2. The method of claim 1 comprising the additional steps of:
 - amplifying the signal $s_1(a)$ to produce an amplified signal $s_1(a)$; and
 - amplifying the phase swept signal $s_1(b)$ to produce an amplified phase swept signal $s_1(b)$.
3. The method of claim 2, wherein power levels associated with the amplified signal $s_1(a)$ and the amplified phase swept signal $s_1(b)$ are approximately equal.
4. The method of claim 2, wherein the signal $s_1(a)$ and phase swept signal $s_1(b)$ are amplified an equal amount.
5. The method of claim 2, wherein the signal $s_1(a)$ is amplified an amount greater than an amount phase swept signal $s_1(b)$ is amplified.
6. A method of signal transmission comprising the steps of:
 - splitting a signal s_1 into signals $s_1(a)$ and $s_1(b)$, wherein the signal s_1 is split unevenly such that the signal $s_1(a)$ has an associated power level greater than a power level associated with the signal $s_1(b)$; and
 - phase sweeping the signal $s_1(a)$ using a phase sweep frequency signal to produce a phase swept signal $s_1(b)$.
7. The method of claim 6 comprising the additional steps of:
 - amplifying the signal $s_1(b)$ to produce an amplified signal $s_1(b)$; and
 - amplifying the phase swept signal $s_1(a)$ to produce an amplified phase swept signal $s_1(a)$.

- 1 8. The method of claim 7, wherein power levels associated with the amplified signal $s_1(b)$
2 and the amplified phase swept signal $s_1(a)$ are approximately equal.
- 1 9. The method of claim 7, wherein the signal $s_1(b)$ and phase swept signal $s_1(a)$ are
2 amplified an equal amount.
- 1 10. The method of claim 7, wherein the signal $s_1(b)$ is amplified an amount greater than an
2 amount phase swept signal $s_1(a)$ is amplified.
- 1 11. A base station comprising:
2 a splitter for splitting a signal s_1 into signals $s_1(a)$ and $s_1(b)$, wherein the signal s_1
3 is split unevenly such that the signal $s_1(a)$ has an associated power level greater than a
4 power level associated with the signal $s_1(b)$; and
5 a multiplier for phase sweeping the signal $s_1(b)$ using a phase sweep frequency
6 signal to produce a phase swept signal $s_1(b)$.
- 1 12. The base station of claim 11 further comprising:
2 a first amplifier for amplifying the signal $s_1(a)$ to produce an amplified signal
3 $s_1(a)$; and
4 a second amplifier for amplifying the phase swept signal $s_1(b)$ to produce an
5 amplified phase swept signal $s_1(b)$.
- 1 13. The base station of claim 12, wherein power levels associated with the amplified signal
2 $s_1(a)$ and the amplified phase swept signal $s_1(b)$ are approximately equal.
- 1 14. The base station of claim 12, wherein the signal $s_1(a)$ and phase swept signal $s_1(b)$ are
2 amplified an equal amount.
- 1 15. The base station of claim 12, wherein the signal $s_1(a)$ is amplified an amount greater than
2 an amount phase swept signal $s_1(b)$ is amplified.
- 1 16. A base station comprising:

2 a splitter for splitting a signal s_1 into signals $s_1(a)$ and $s_1(b)$, wherein the signal s_1
3 is split unevenly such that the signal $s_1(a)$ has an associated power level greater than a
4 power level associated with the signal $s_1(b)$; and
5 a multiplier for phase sweeping the signal $s_1(a)$ using a phase sweep frequency
6 signal to produce a phase swept signal $s_1(b)$.

1 17. The base station of claim 16 comprising the additional steps of:

2 a first amplifier for amplifying the signal $s_1(b)$ to produce an amplified signal
3 $s_1(b)$; and

4 a second amplifier for amplifying the phase swept signal $s_1(a)$ to produce an
5 amplified phase swept signal $s_1(a)$.

1 18. The base station of claim 17, wherein power levels associated with the amplified signal
2 $s_1(b)$ and the amplified phase swept signal $s_1(a)$ are approximately equal.

1 19. The base station of claim 17, wherein the signal $s_1(b)$ and phase swept signal $s_1(a)$ are
2 amplified an equal amount.

1 20. The base station of claim 17, wherein the signal $s_1(b)$ is amplified an amount greater than
2 an amount phase swept signal $s_1(a)$ is amplified.

FOUO 2014-06-06